UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/698,519	11/03/2003	Minoru Chida	244606US0	1401

22850 7590 03/23/2005

OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT, P.C.
1940 DUKE STREET
ALEXANDRIA, VA 22314

EXAMINER	
KRUER, KEVIN R	

ART UNIT	PAPER NUMBER
1773	

DATE MAILED: 03/23/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/698,519	CHIDA ET AL.	
	Examiner	Art Unit	
	Kevin R Kruer	1773	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) 1-10 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) 1-10 is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date 10/15/2004.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Priority

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Information Disclosure Statement

2. The information disclosure statement filed October 15, 2004 has been fully considered. An initialed copy of said PTO-1449 is enclosed herein.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 1-6, 9, and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sasaki et al (US 5,496,652) in view of JP 50139129A (herein referred to as Nippon) and Applicant's admissions.

Sasaki teaches a zinc-plated steel sheet having a resin coating film formed on the surface which is obtained by forming a chromate treating layer on the surface of a base steel sheet plated with zinc or zinc alloy (abstract). The resin coating film has a thickness of 0.1-5um, and is based on a composite resin material including at most 50wt% silica (abstract). The silica has a primary particle diameter of 5-50nm (col 7, lines 27+). . Said resin is an ethylene-based ionomer (abstract), preferably one

containing an ethylenically unsaturated carboxylic acid in amounts of 3-20wt% (col 5, lines 35+). The ionomer is reacted with a silane crosslinking agent (col 5, lines 62+) in amounts of 0.5-15wt% (claim 5). Said polymer is herein understood to read on the claimed copolymer resin that is associated by ion cluster because said resin reads on the claimed species of claim 2. The carboxylic acid is preferably neutralized with an amine (col 5, lines 30+).

With regard to the coating weights of claim 4, Sasaki does not explicitly teach said coating weight. However, Sasaki teaches that the amount of coating should be controlled in order to obtain the barrier effect in respect to the blackening and adhesion (col 9, lines 45+). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to optimize the coating weight of the resin coating taught in Sasaki. The motivation for doing so would have been to control the laminate's barrier properties and adhesion.

Said preamble limitation "superior in weldability and corrosion resistance" is herein understood to state latent properties of the claimed laminate and does not further limit the claimed invention.

Sasaki does not teach that the steel should be galvanized. However, Applicant admits that steel sheets are in many cases hot dip galvanized at their surfaces in order to ensure corrosion resistance (bottom of page 1 of the specification). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to hot dip galvanize the steel substrate of Sasaki. The motivation for doing so would have been to improve the corrosion resistance of the laminate.

Sasaki also does not teach that the resinous coating should comprise tannic acid. However, Nippon teaches that tannic acid may be added to thermosetting or thermoplastic resin coatings that are to applied to steel sheets in order to increase the anticorrosive properties of the coating (abstract). Therefore, it would have been obvious to one of ordinary skill in the art to tannic acid to the resin coating taught in Sasaki. The motivation for doing so would have been that tannic acid will increase the anticorrosive properties of the coating. Furthermore, it would have been obvious to one of ordinary skill in the art to optimize the amount of tannic acid added to the coating taught in Sasaki. The motivation for doing so would have been to control the anticorrosive properties of said film.

The film is applied to eth metal substrate by applying an aqueous coating of said resin composition to the steel sheet and heating to dry (col 9, lines 58+). Furthermore, the film may be roll coated (col 9, line 62). In such a process, the film is understood to inherently be subjected to the claimed elongation percentage of claim 6.

5. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sasaki et al (US 5,496,652) in view of JP 50139129A (herein referred to as Nippon) and Applicant's admissions, as applied to claims 1-6, 9, and 10 above, and further in view of Greene (US 4,298,404).

Sasaki is relied upon as above, but does not teach that the steel sheet should be substantially not subjected to chromate treating. However, Greene teaches an anticorrosion coating that may be used in place of chromate treatments in order to avoid the negative environmental impact of said chromate coating (see Background of the

Invention). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize the coating taught in Greene in place of the chromate coating taught in Sasaki. The motivation for doing so would have been to reduce the environmental impact of the laminate production.

6. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sasaki et al (US 5,496,652) in view of JP 50139129A (herein referred to as Nippon) and Applicant's admissions, as applied to claims above, and further in view of Shimizu et al (US 5,950,468).

Sasaki is relied upon as above, but does not teach that the surface of the steel sheet should have a center line average roughness of 0.1-2um. However, Shimizu teaches that the roughness of metal substrates should be controlled in order to increase the adhesion between said sheet and a resinous coating (col 9, lines 1+). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to optimize the surface roughness of the steel sheet taught in Sasaki. The motivation for doing so would have been to control the adhesion between the metal sheet and resinous coating.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kevin R Kruer whose telephone number is 571-272-1510. The examiner can normally be reached on Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Carol Chaney can be reached on 571-272-1284. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

K-R K—

Kevin R. Kruer
Patent Examiner-Art Unit 1773